

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A mutant trichosanthin (MTCS) protein, comprising the amino acid sequence as set forth in SEQ ID NO: 8, with the modification of at least one amino acid residue in the ~~following three regions: of amino acid residues 174 to 180, 203 to 226, and 230 to 244,~~ wherein said at least one amino acid residue modification is selected from the group consisting of:

arginine at position 174 and lysine at position 177 are independently replaced with glutamic acid, aspartic acid, or glycine;

aspartic acid at position 176 is independently replaced with lysine or glycine;

threonine at position 178 is independently replaced with glycine or alanine; and

valine at position 175, phenylalanine at position 179, and leucine at position 180 are independently deleted. wherein the modification is selected from either, arginine at position 174, lysine at position 177, arginine at position 222 and arginine at position 243 is independently replaced with glutamic acid, aspartic acid, or glycine, or aspartic acid at position 176, asparagine at position 205, asparagine at position 206, glutamine at position 208, glutamic acid at position 210, asparagine at position 217, glutamine at position 219, asparagine at position 220, glutamine at position 221, asparagine at position 236, asparagine at position 242, and asparagine at position 244 is independently replaced with lysine or glycine, or threonine at position 178, serine at position 203, threonine at position 204, serine at position 211, threonine at position 224, threonine at position 226, threonine at position 234, and serine at position 235 is independently replaced with glycine or alanine, or valine at position 175, phenylalanine at position 179, leucine at position 180, glycine at position 207,

~~phenylalanine at position 209, proline at position 212, valine at position 213, valine at position 214, valine at position 215, valine at position 223, isoleucine at position 216, isoleucine at position 225, alanine at position 218, alanine at position 230, alanine at position 238, glycine at position 231, valine at position 232, valine at position 233, isoleucine at position 237, leucine at position 239, leucine at position 240, and leucine at position 240 is independently deleted.~~

2-9. (Canceled).

10. (Currently amended) A mutant protein according to claim 9-21, wherein lysine at position 177 is replaced with glutamic acid, and serine at position 203 is replaced with glycine.

11. (Currently amended) A mutant protein according to claim 9-22, wherein lysine at position 177 is replaced with glutamic acid, serine at position 203 is replaced with glycine, and asparagine at position 236 is replaced with glycine.

12-15 (Canceled).

16. (Currently amended) A pharmaceutical composition comprising a mutant protein as defined in claims 1, 21, or 22 and a pharmaceutically acceptable carrier or excipient.

17-20 (Canceled).

21. (New) A mutant protein according to claim 1, further comprising the additional modification of at least one amino acid residue in the region of amino acid residues 203 to 226.

22. (New) A mutant protein according to claim 21, further comprising the additional modification of at least one amino acid residue in the region of amino acid residues 230 to 244.

23. (New) A mutant protein according to claim 21, wherein the amino acid residue arginine at position 222 is independently replaced with glutamic acid, aspartic acid, or glycine.

24. (New) A mutant protein according to claim 21, wherein at least one amino acid residue selected from the group consisting of asparagine at position 205, asparagine at position 206, glutamine at position 208, glutamic acid at position 210, asparagine at position 217, glutamine at position 219, asparagines at position 220, glutamine at position 221 is independently replaced with lysine or glycine.

25. (New) A mutant protein according to claim 21, wherein at least one amino acid residue selected from the group consisting of serine at position 203, threonine at position 204, serine at position 211, threonine at position 224, threonine at position 226 is independently replaced with glycine or alanine.

26. (New) A mutant protein according to claim 21, wherein at least one amino acid residue is selected from the group consisting of glycine at position 207, phenylalanine at position 209, proline at position 212, valine at position 213, valine at position 214, valine at position 215, valine at position 223, isoleucine at position 216, isoleucine at position 225, alanine at position 218 is independently deleted.

27. (New) A mutant protein according to claim 22, wherein the amino acid residue arginine at position 243 is independently replaced with glutamic acid, aspartic acid, or glycine.

28. (New) A mutant protein according to claim 22, wherein at least one amino acid residue selected from the group consisting of asparagine at position 236, asparagine at position 242, and asparagine at position 244 is independently replaced with lysine or glycine.

29. (New) A mutant protein according to claim 22, wherein at least one amino acid residue selected from the group consisting of threonine at position 234, and serine at position 235 is independently replaced with glycine or alanine.

30. (New) A mutant protein according to claim 22, wherein at least one amino acid residue is selected from the group consisting of alanine at position 230, alanine at position 238, glycine at position 231, valine at position 232, valine at position 233, isoleucine at position 237, leucine at position 239, leucine at position 240, and leucine at position 241 is independently deleted.